

Patent Claims:

1. A method for the prevention of erroneous actuator access in a multifunctional general electronic control system wherein the actuator access requirements emanate from various or different system services (1), characterized in that a rights management (2) which determines the authorization of the system service (1) for changing the instantaneous mode of operation of the general control system in the event of an actuator access requirement, a mode of operation control unit (4), and an access management (6) are integrated into the system, in that the rights management (2) in the event of an access requirement by a system service (1), brings about an adjustment or a change of the mode of operation according to predefined rules in consideration of the instantaneous general mode of operation of the general control system and reports the current mode of operation to the access management (6), and in that the access management (6), depending on the reported general mode of operation, allows an actuator actuation only by the 'authorized' system service (1) and processes the actuator access requirements of the system services (1) according to predefined arbitration rules.
2. The method as claimed in claim 1, characterized in that the actuator access requirements of the system services (1) are recorded in a memory (5) and passed on to the access management (6) sorted according to types of arbitration.

3. The method as claimed in claim 1 or 2,
characterized in that the actuator access requirement originating from a system service (1) and admitted to pass to an actuator (7) is determined by a two-stage arbitration, i.e. by a 'vertical' and a 'horizontal' arbitration.
4. The method as claimed in any one or more of claims 1 to 3, characterized in that in the access management (6), the unauthorized access requirements are determined, eliminated or rejected in a first step depending on the reported, current general mode of operation, in that in a second step, vertical arbitration is used to evaluate and select the authorized access requirements according to a predefined order of priority of the types of arbitration, and higher priority is given to a 'current signal' rather than to a 'pressure signal', while higher priority is attributed to an 'ON/OFF signal' rather than to a 'current signal', and in that in a third step, horizontal arbitration is used to evaluate and select the access requirements determined in the second step according to the priority of the signal for driving the actuator (7).
5. The method as claimed in any one or more of claims 1 to 4, characterized in that the rights of the system services (1) for the change of the mode of operation are written down in a read-only memory (3) to which the rights management (2) has access.

6. The method as claimed in any one or more of claims 1 to 5, characterized in that in a general control system for motor vehicles which, as a base system, comprises a brake system (EHB, EMB), as system services (1) emanating from which are the actuator access requirements, the basic brake functions (BBF), wheel slip control functions (such as ABS, TCS, ESP), diagnosis functions (DIAG), motor pump control systems (MPA) and interfaces (BUS) are determined and checked by the rights management (2) in connection with the access management (5).
7. The method as claimed in any one or more of claims 1 to 6, characterized in that further system services (1) such as 'customer software' (CSW), 'steering functions' (steer), etc., are integrated into the general system.
8. The method as claimed in any one or more of claims 1 to 7, characterized in that in a general control system for motor vehicles, a distinction is made in the mode of operation control unit (3) at least between the modes of operation 'normal operation' which occurs after termination of the starting phase in the absence of an error message, the mode of operation 'starting phase' which applies e.g. until expiry of a predetermined period of time, until a minimum speed is reached for the first time, and/or until initial testing routines are completed, the mode of operation 'diagnosis', the mode of operation 'customer software' which is initiated in the case of an actuator access requirement by an extraneous or auxiliary system, and the mode of operation 'failsafe' indicating the presence of an error message.